

Application No. 10/734,182
Amendment dated September 13, 2006
Reply to Office Action of June 13, 2006

Docket No.: 0941-0879P

AMENDMENTS TO THE CLAIMS

1.(Cancelled)

2. (Currently Amended) ~~The PDA as claimed in claim 1, the current limiting device further comprising:~~ A Personal Digital Assistant, wherein the Personal Digital Assistant outputs a current within a first current range to an external device when supplied with a battery power and outputs a current within a second current range to the external device when supplied with external power through an adapter, comprising:

a main device, for performing necessary data processing, enabling a control signal when supplied with external power through the adapter;

a switch device comprising a first input terminal receiving battery power, a second input terminal receiving external power, a control terminal receiving the control signal, and an output terminal outputs battery power when the control signal is disabled and outputs external power when the control signal is enabled; and

a current limiting device comprising:

an impedance device for providing a first impedance and a second impedance, wherein the impedance device outputs the first impedance when the control signal is disabled and outputs the first and the second impedances when the control signal is enabled; and

a current limiting module coupled to the output terminal of the switching device, wherein the current limiting module outputs the current within the first current range when receiving the first impedance and outputs the current within the second current range when receiving the first and the second impedances.

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3. (Currently Amended) The ~~[[PDA]]~~Personal Digital Assistant as claimed in claim 2, wherein the external device is a printer.

4. (Currently Amended) The ~~[[PDA]]~~Personal Digital Assistant as claimed in claim ~~[[1]]~~2, wherein the external device is a digital camera.

5. (Currently Amended) The ~~[[PDA]]~~Personal Digital Assistant as claimed in claim 2, wherein the current limiting module is a current limiting integrated circuit-~~(IC)~~ MIC2544 or MIC2548.

6. (Currently Amended) The ~~[[PDA]]~~Personal Digital Assistant as claimed in claim 5, wherein a fourth pin of the current limiting integrated circuit is coupled to the impedance and wherein a maximum value of an output current (I_{Limit}) of the current limiting integrated circuit is limited by the impedance (R_{SET}) provided by the impedance device in accordance with the formula

$$I_{Limit} = \frac{230V}{R_{SET}}$$

7. (Currently Amended) The ~~[[PDA]]~~Personal Digital Assistant as claimed in claim 2, the ~~[[PDA]]~~Personal Digital Assistant and the external device are connected by a cable.

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8. (Currently Amended) The [[PDA]]Personal Digital Assistant as claimed in claim 2, wherein the first current range is smaller than the second current range.

9. (Currently Amended) The [[PDA]]Personal Digital Assistant as claimed in claim 2, wherein the impedance device comprises:

a first resistor, coupled between the current limiting module and a voltage level ~~(Gnd)~~(Ground), for providing the first impedance;

a second resistor for providing the second impedance; and

a selecting device serially connected to the second resistor, wherein both the selecting device and the second resistor are coupled between the current limiting device and the voltage level ~~(Gnd)~~(Ground), wherein the selecting device is turned off and the limiting module receives only the first impedance when the control signal is disabled, and wherein the selecting device is turned on and the limiting module receives the first and the second impedances when the control signal is enabled.

10. (Currently Amended) The [[PDA]]Personal Digital Assistant as claimed in claim 9, wherein the selecting device is an N-type transistor having a gate receiving the control signal, a drain coupled to the second resistor, and a source coupled to the voltage level ~~(Gnd)~~(Ground).

11. (Currently Amended) The [[PDA]]Personal Digital Assistant as claimed in claim ~~[[1]]~~9, wherein the selecting device is a P-type transistor having a gate receiving the control signal, a drain coupled to the voltage level ~~(Gnd)~~(Ground), and a source coupled to the second resistor.

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12. (Currently Amended) A current limiting device built into a [[PDA]]Personal Digital Assistant, wherein the [[PDA]]Personal Digital Assistant is used as a host and is connected to an external device, wherein the current limiting device outputs a current within a first current range to the external device when the [[PDA]]Personal Digital Assistant is supplied with battery power, and wherein the [[PDA]]Personal Digital Assistant enables a control signal and the current limiting device outputs a current within a second current range to the external device when the [[PDA]]Personal Digital Assistant is supplied with external power through an adapter, comprising:

a switch device comprising a first input terminal receives battery power, a second input terminal receives external power, a control terminal receives the control signal, and an output terminal outputs battery power when the control signal is disabled and outputs external power when the control signal is enabled;

a current limiting module coupled to the output terminal of the switching device;

a first resistor, coupled between the current limiting module and a voltage level ~~(Gnd)~~(Ground), to provide a first impedance;

a second resistor for providing a second impedance; and

a selecting device serially connected with the second resistor, wherein both the selecting device and the second resistor are coupled between the current limiting device and the voltage level ~~(Gnd)~~(Ground), wherein the selecting device is turned off and the limiting module receives only the first impedance when the control signal is disabled, and wherein the selecting device is turned on and the limiting module receives the first and the second impedances when the control signal is enabled.

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13.(Original) The current limiting device as claimed in claim 12, wherein the current limiting module is a current limiting integrated circuit MIC2544 or MIC2548.

14.(Original) The current limiting device as claimed in claim 12, wherein the first current range is smaller than the second current range.

15.(Original) The current limiting device as claimed in claim 13, wherein a fourth pin of the current limiting integrated circuit is coupled to the impedance and wherein a maximum value of an output current (I_{Limit}) of the current limiting integrated circuit is limited by the impedance (R_{SET})

provided by the impedance device in accordance with a relationship formula
$$I_{Limit} = \frac{230V}{R_{SET}}$$

16. (Currently Amended) The current limiting device as claimed in claim 12, wherein the selecting device is an N-type transistor having a gate receiving the control signal, a drain coupled to the second resistor, and a source coupled to the voltage level (~~Gnd~~)(Ground).

17. (Currently Amended) The current limiting device as claimed in claim 12, wherein the selecting device is a P-type transistor having a gate receiving the control signal, a drain coupled to the voltage level (~~Gnd~~)(Ground), and a source coupled to the second resistor.